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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,240	01/16/2002	Qingyuan Chen	0011-0382P	4371

2292 7590 05/30/2003

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EXAMINER

POLITZER, JAY L

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicati n No. 10/046,240	Applicant(s) CHEN ET AL.	
	Examin r Jay L Politzer	Art Unit 2856	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Peri d for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Pri rity under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-3, drawn to a method for controlling the entrained gas content of a liquid or slurry being flow-processed, classified in class 73, subclass 19.05.

II. Claims 4-6, drawn to an apparatus comprising a reservoir for process fluid, piping through which said process fluid may be pumped, and a deaerator unit, the improvement which comprises locating means for detecting the volume percentage of free gas in said process fluid in working relationship to said deaerator unit, classified in class 96, subclass 158.

III. Claims 7-13, drawn to a method of determining the amount of gas in a liquid which comprises subjecting a mixture of an incompressible liquid sample and a compressible gas to at least three different equilibrium pressure states, classified in class 261, subclass 19.

- IV. Claims 14-15 drawn to an apparatus and method of data collection comprising:
- a reservoir for process fluid;
- piping through which said fluid may be pumped,
- classified in class 96, subclass 158.
- V. Claims 16-21, drawn to a method for automatically controlling the output of a continuous process that requires mixing of a solid or liquid component with a liquid carrier component17-21 a method for automatically controlling the output of a continuous process that requires mixing of a solid or liquid component with a liquid carrier component, classified in class 366, subclass 132.
- VI. Claims 22-23, drawn to a method for controlling the output of a continuous process for preparing a carbonated beverage, classified in class 222, subclass 55.
- VII. Claims 24, drawn to a method for determining the concentration of a solid or liquid component in a liquid carrier component, classified in class 356, subclass 337.
- VIII. Claim 25, drawn to a method for determining the true density of a solid or liquid component in a liquid

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carrier component, classified in class 73, subclass 53.01.

IX. Claim 26, drawn to a method for determining the entrained air content of a liquid component, classified in class 73, subclass 19.1.

X. Claims 27-28, drawn to a different method of characterizing a liquid by determining its entrained air content, classified in class 73, subclass 19.1.

XI. Claim 29, drawn to a method of identifying a sample of unknown constitution which comprises comparing its true density with a collection of true densities, classified in class 73, subclass 53.01.

XII. Claim 30, drawn to a method of identifying a sample of unknown constitution which comprises comparing its % solids with a collection of % solids, for a variety of known compounds, classified in class 406, subclass 19.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I., III., V-XII., VI and II., IV. are related as processes and apparatuses for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different

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apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process.

(MPEP § 806.05(e)). In this case the processes can be practiced by hand.

3. Inventions II. and IV. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II. has separate utility such as being useful in conjunction with a deaerator while IV. is not directed to a deaerator. See MPEP § 806.05(d).

4. Inventions I., V., VI. and III., VII-XII. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions III., VII-XII. have separate utility such as determining sample characteristics without controlling the sample characteristics while inventions I., V., VI. perform control that necessitates determining sample characteristics. See MPEP § 806.05(d).

5. Inventions I. and V. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

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operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control entrained gases and mixes of solid or liquid components, respectively, in a carrier.

6. Inventions I. and VI. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I. and VI. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Inventions V. and VI. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

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7. Inventions III. and VII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control entrained gases and mixes of solid or liquid components, respectively, in a carrier.

8. Inventions III. and VIII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

9. Inventions III. and IX. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention III. and IX. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).



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10. Inventions III. and XI. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention III. and XI. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

11. Inventions III. and XII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control entrained gases and mixes of solid or liquid components, respectively, in a carrier.

12. Inventions VII. and VIII. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention VII. and VIII. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

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13. Inventions VII. and IX. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

14. Inventions VII. and X. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

15. Inventions VII. and XI. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

16. Inventions VII. and XII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as

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capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

17. Inventions VIII. and IX. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

18. Inventions VIII. and X. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions control mixes of solid or liquid components and entrained gases, respectively, in a carrier.

19. Inventions VIII. and XI. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention VIII.

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and XI. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

20. Inventions VIII. and XII. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention VIII. and XII. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

21. Inventions IX. and X. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IX. and X. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

22. Inventions IX. and XI. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IX. and

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XI. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

23. Inventions IX. and XII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions determine entrained gases and mixes of solid or liquid components, respectively, in a carrier.

24. Inventions X. and XI. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions determine entrained gases and mixes of solid or liquid components, respectively, in a carrier.

25. Inventions X. and XII. are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different

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inventions determine entrained gases and mixes of solid or liquid components, respectively, in a carrier.

26. Inventions IX. and X. are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IX. and X. have separate utility such as being useable individually or in combination with each other because the methods use different equations to arrive at a result. See MPEP § 806.05(d).

27. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

28. This application contains claims directed to the following patentably distinct species of the claimed invention: III and X.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

29. This application contains claims directed to the following patentably distinct species of the claimed invention: 16, 18-21 and 17-21.

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Applicant is required under 35 U.S.C. 121 to elect a single disclosed species either 16, 18-21 or 17-21 for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

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case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

30. A telephone call was made to Joe Muncy to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

31. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay L Politzer whose telephone number is 305-4930.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be



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reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4427 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

1-2P

JLP  
May 22, 2003

HELEN KWOK  
PRIMARY EXAMINER

